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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/977,864

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Henryk Dudek

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ROPES & GRAY LLP

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EXAMINER

HOWARD, ZACHARY C

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/977,864	<b>Applicant(s)</b> DUDEK ET AL.	
	<b>Examiner</b> ZACHARY C. HOWARD	<b>Art Unit</b> 1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,8,9,21 and 23-70 is/are pending in the application.
- 4a) Of the above claim(s) 4,6,8 and 9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-34,44-49,60 and 63 is/are allowed.
- 6) ☒ Claim(s) 1,5,21,25,26,28,30,31,35,36,38-43,50-53,56-59,61 and 64-67 is/are rejected.
- 7) ☒ Claim(s) 23,24,27,29,37,54,55,62 and 68-70 is/are objected to.
- 8) ☒ Claim(s) 1,4-6,8,9,21 and 23-70 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Application, Amendments and/or Claims***

The amendment of 5/1/09 has been entered in full. Claims 60, 61, 63 and 64 are amended. New claims 68-70 are added.

Claims are 1, 4-6, 8, 9, 21 and 23-70 are pending.

Claims 4, 6, 8 and 9 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. It is noted that claim 4 recites a genus of cancer ("urogenital") that is broader than the species recited in parent claim 1 (i.e., "prostate" and "bladder" are species of urogenital). It is also noted that claim 9 recites a species of unwanted cell proliferation that is not encompassed by parent claim 1 (i.e., unwanted cell proliferation that is benign prostatic hyperplasia (also known as benign enlargement of the prostate) is not a form of "unwanted cell proliferation associated with cancer in a tissue"; cancer is by definition a malignant neoplasm and not benign).

Claims are 1, 5, 21 and 23-70 are under consideration.

In view of the new grounds of rejection, the finality of the previous Office Action is withdrawn.

### ***Withdrawn Objections and/or Rejections***

The following page numbers refer to the previous Office Action (3/3/09).

The rejection of claims 60-67 under 35 U.S.C. § 112, first paragraph at pg 6-11 for failing to provide enablement for the full scope of the claims is *withdrawn* in view of Applicants' amendments to independent claims 60, 61, 63 and 64.

Please see new claim objections and rejections, below.

### ***Maintained Objections and/or Rejections***

#### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 5, 21, 25, 26, 28, 30, 31, 35, 36, 38-43, 50-53 and 56-59 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 52, 56-59, 68, 72, 76-79, 90-93, 95 and 97 of copending Application No. 10/652,298. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. This rejection was set forth previously and maintained at pg 3-4 of the 3/3/09 Office Action over claim 68 of the '298 application; claims 1, 52, 56-59, 72, 76-79, 90-93, 95 and 97 of the '298 application are herewith added because they encompass the same species of cancer (prostate and bladder) and gene (*gli-1*) on which the rejection over claim 68 is based.

**This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.**

Claims 61 and 64-67 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 25-27, 29-31, 33, 34, 35, 37, 38, 53-55, 60-64, 69-71, 73-75, 80, 81, 84-87, 90-93, 96, 98 and 100 of copending Application No. 10/652,298. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. This rejection was previously set forth at pg 5 of the 3/3/09 Office Action over claim 70 of the '298 Application; claims 23, 25-27, 29-31, 33, 34, 35, 37, 38, 53-55, 60-

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64, 69, 71, 73-75, 80, 81, 84-87, 90-93, 96, 98 and 100 of '298 application are herewith added because they encompass the same species of cancer (prostate and bladder) and gene (*Sonic hedgehog*) on which the rejection over claim 70 is based.

In the 5/1/09 response (pg 11), Applicants ask that "this rejection be held in abeyance until indication of allowable subject matter. Applicants will submit a terminal disclaimer, if necessary, upon indication of allowable subject matter".

The Examiner notes Applicants' intention of submitting a terminal disclaimer; however, the rejection is maintained. See MPEP 804.I.B: "The "provisional" double patenting rejection should continue to be made by the examiner in each application as long as there are conflicting claims in more than one application unless that "provisional" double patenting rejection is the only rejection remaining in at least one of the applications."

### ***New objections and/or rejections***

#### ***Specification***

The disclosure is objected to because of the following informalities:

The title of the invention ("HEDGEHOG ANTAGONISTS, METHODS AND USES RELATED THERETO") is not descriptive because it is directed to both products and methods, whereas the claims are directed solely to methods. Furthermore, the title is not clear as to what the method is for (e.g., treating cancer). A new title is required that is clearly indicative of the invention to which the claims are directed.

Appropriate correction is required.

#### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

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*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21, 25, 35, 50, 51, 61, 64, 65 and 67 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13, 19, 21, 23, 25, 27-30, 32, 34-37, 39-44, 45-50, 53-56, 59-62, 64 and 66 of U.S. Patent No. 7,498,304 (issued 3/3/09 from application 10/652,686). The '304 patent and the instant application each share a common assignee (Curis, Inc).

Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons.

Instant claim 21 is directed to a method for treating a tumor in a patient, comprising determining whether tumor overexpresses a *gli-1* gene and administering to said patient an amount of a hedgehog antibody that binds to Sonic hedgehog and inhibits hedgehog signaling, and wherein the tumor is associated with urogenital cancer. Claim 1 of the '304 patent encompasses a method of treatment comprising assaying whether an endometrial tumor in a patient expresses a *gli-1* gene, and administering a sufficient amount of hedgehog antibody that binds to Sonic hedgehog and inhibits hedgehog signaling. The endometrium is part of the uterus, and thus an endometrial tumor is a species of urogenital cancer. Furthermore, the portion of the disclosure of the '304 patent informing the claims indicates that determining whether the tumor overexpresses the *gli-1* gene is a preferred embodiment of the invention (col 3, lines 35-40). Therefore, claim 1 of the '304 patent anticipates instant claim 21.

Instant claim 25 depends from claim 21 and encompasses a method wherein the tumor is associated with urogenital tissues. Therefore, claim 1 of the '304 patent also anticipates instant claim 25.

Instant claim 35 depends from claim 21 and limits the method to one wherein the determining step includes "obtaining a sample of the tumor" and "determining whether said sample overexpresses said *gli-1* gene". The portion of the disclosure of the '304 patent informing the claims indicates that obtaining a tissue sample from a patient and determining whether the tumor overexpresses the *gli-1* gene is a preferred embodiment of the invention (col 3, lines 35-40). Therefore, claim 1 of the '304 patent also anticipates instant claim 35.

Instant claim 50 depends from claim 35 and limits the determining to comprising determining *gli-1* transcript expression. The portion of the disclosure of the '304 patent informing the claims indicates that this specific determination is a preferred embodiment of claim 1 of the '304 patent, as evidenced by Example 8, which describes detection of *gli-1* mRNA expression in tumors. Therefore, claim 1 of the '304 patent also anticipates instant claim 50.

Instant claim 51 depends from claim 35 and limits the determining to comprising determining *gli-1* protein expression. This specific determination is obvious over claim 1 of the '304 patent and in view of claim 27 of the '304 patent. As described above, determination of *gli-1* transcript expression is a preferred embodiment of claim 1 of the '304 patent, as evidenced by Example 8, which describes detection of *gli-1* mRNA expression in tumors. The '304 patent does not specifically describe detection of *gli-1* protein in tumors. However, the '304 patent does describe a method of detection of Sonic hedgehog gene (claim 1) and protein (claim 27) in endometrial tumors. It would have been obvious to the skilled artisan at the time the invention was made to substitute detection of *gli-1* protein for the detection *gli-1* transcript that is a disclosed preferred embodiment of the method of claim 1. In view of claim 27 of the '304 patent regarding the method of detection of the Sonic hedgehog protein, the skilled artisan would have recognized that simple substitution of one known equivalent (protein detection) for another (transcript detection) in the detection of the *gli-1* gene would have obtained predictable results (determination of *gli-1* expression). Therefore, claim 1 of the '304 patent also anticipates instant claim 51.

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Instant claims 61, 64, 65 and 67 each encompass a method of treatment similar to claim 1, except that *Sonic hedgehog* gene expression is detected in place of *gli-1* gene expression. Claim 1 of the '304 patent is directed to the *Sonic hedgehog* gene in the alternative. The portion of the disclosure of the '304 patent informing the claims indicates that determining whether the cells overexpress a hedgehog gene is also preferred embodiment of the invention (col 5, lines 1-8). Therefore, claim 1 of the '304 patent anticipates instant claims 61, 64, 65 and 67.



***Conclusion***

Claims 23, 24, 27, 29, 37, 54, 55, 62 and 68-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 32-34, 44-49, 60 and 63 are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary C. Howard whose telephone number is 571-272-2877. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary B. Nickol can be reached on 571-272-0835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Z. C. H./  
Examiner, Art Unit 1646

/Bridget E Bunner/  
Primary Examiner, Art Unit 1647